

HIGH THROUGHPUT HOLE FORMING SYSTEM WITH  
MULTIPLE SPINDLES PER STATION

ABSTRACT OF THE DISCLOSURE

5 A high throughput drilling system for printed circuit  
board hole formation. Two spindles are disposed at each  
spindle station, doubling the number of holes produced in  
a given time period. Each spindle is connected to an  
overhead linear drive by a mini slide. A first set of the  
spindles, one for each spindle station, is driven by a  
first X axis linear drive. A second set is driven by a  
10 second X axis linear drive. The work piece table is  
elongated to support work pieces for all stations, and is  
supported by a set of bearing guides, with outrigger  
bearings coupled to the table by flexure mounts that  
relieve stress due to differential temperature expansion  
15 rates between the work piece table and the base table.  
High speed spindles are employed to obtain higher produc-  
tivity, with larger holes routed by router tools, eliminat-  
ing the need for stocking large drill sizes on the system  
tool changer.